

SEQUENCE LISTING

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COUGHLIN, Shaun R.

<120> METHODS AND COMPOSITIONS FOR REGULATING CELL CYCLE  
PROGRESSION

<130> UCSF-020/02US

<140> Not Yet Available  
<141> 2001-01-08

<150> US 09/156,316  
<151> 1998-09-18

<150> US 60/060,688  
<151> 1997-09-22

<160> 46

<170> PatentIn Ver. 2.1

<210> 1  
<211> 802  
<212> PRT  
<213> Homo sapiens

<400> 1  
Met Pro Arg Ile Met Ile Lys Gly Gly Val Trp Arg Asn Thr Glu Asp  
1 5 10 15

Glu Ile Leu Lys Ala Ala Val Met Lys Tyr Gly Lys Asn Gln Trp Ser  
20 25 30

Arg Ile Ala Ser Leu Leu His Arg Lys Ser Ala Lys Gln Cys Lys Ala  
35 40 45

Arg Trp Tyr Glu Trp Leu Asp Pro Ser Ile Lys Lys Thr Glu Trp Ser  
50 55 60

Arg Glu Glu Glu Glu Lys Leu Leu His Leu Ala Lys Leu Met Pro Thr  
65 70 75 80

Gln Trp Arg Thr Ile Ala Pro Ile Ile Gly Arg Thr Ala Ala Gln Cys  
85 90 95

Leu Glu His Tyr Glu Phe Leu Leu Asp Lys Ala Ala Gln Arg Asp Asn  
100 105 110

Glu Glu Glu Thr Thr Asp Asp Pro Arg Lys Leu Lys Pro Gly Glu Ile  
115 120 125

Asp Pro Asn Pro Glu Thr Lys Pro Ala Arg Pro Asp Pro Ile Asp Met  
130 135 140

Asp Glu Asp Glu Leu Glu Met Leu Ser Glu Ala Arg Ala Arg Leu Ala

145 150 155 160  
Asn Thr Gln Gly Lys Lys Ala Lys Arg Lys Ala Arg Glu Lys Gln Leu  
165 170 175  
Glu Glu Ala Arg Arg Leu Ala Ala Leu Gln Lys Arg Arg Glu Leu Arg  
180 185 190  
Ala Ala Gly Ile Glu Ile Gln Lys Lys Arg Lys Arg Lys Arg Gly Val  
195 200 205  
Asp Tyr Asn Ala Glu Ile Pro Phe Glu Lys Lys Pro Ala Leu Gly Phe  
210 215 220  
Tyr Asp Thr Ser Glu Glu Asn Tyr Gln Ala Leu Asp Ala Asp Phe Arg  
225 230 235 240  
Lys Leu Arg Gln Gln Asp Leu Asp Gly Glu Leu Arg Ser Glu Lys Glu  
245 250 255  
Gly Arg Asp Arg Lys Lys Asp Lys Gln His Leu Lys Arg Lys Lys Glu  
260 265 270  
Ser Asp Leu Pro Ser Ala Ile Leu Gln Thr Ser Gly Val Ser Glu Phe  
275 280 285  
Thr Lys Lys Arg Ser Lys Leu Val Leu Pro Ala Pro Gln Ile Ser Asp  
290 295 300  
Ala Glu Leu Gln Glu Val Val Lys Val Gly Gln Ala Ser Glu Ile Ala  
305 310 315 320  
Arg Gln Thr Ala Glu Glu Ser Gly Ile Thr Asn Ser Ala Ser Ser Thr  
325 330 335  
Leu Leu Ser Glu Tyr Asn Val Thr Asn Asn Ser Val Ala Leu Arg Thr  
340 345 350  
Pro Arg Thr Pro Ala Ser Gln Asp Arg Ile Leu Gln Glu Ala Gln Asn  
355 360 365  
Leu Met Ala Leu Thr Asn Val Asp Thr Pro Leu Lys Gly Gly Leu Asn  
370 375 380  
Thr Pro Leu His Glu Ser Asp Phe Ser Gly Val Thr Pro Gln Arg Gln  
385 390 395 400  
Val Val Gln Thr Pro Asn Thr Val Leu Ser Thr Pro Phe Arg Thr Pro  
405 410 415  
Ser Asn Gly Ala Glu Gly Leu Thr Pro Arg Ser Gly Thr Thr Pro Lys  
420 425 430  
Pro Val Ile Asn Ser Thr Pro Gly Arg Thr Pro Leu Arg Asp Lys Leu  
435 440 445  
Asn Ile Asn Pro Glu Asp Gly Met Ala Asp Tyr Ser Asp Pro Ser Tyr

450

455

460

Val Lys Gln Met Glu Arg Glu Ser Arg Glu His Leu Arg Leu Gly Leu  
 465 470 475 480

Leu Gly Leu Pro Ala Pro Lys Asn Asp Phe Glu Ile Val Leu Pro Glu  
 485 490 495

Asn Ala Glu Lys Glu Leu Glu Glu Arg Glu Ile Asp Asp Thr Tyr Ile  
 500 505 510

Glu Asp Ala Ala Asp Val Asp Ala Arg Lys Gln Ala Ile Arg Asp Ala  
 515 520 525

Glu Arg Val Lys Glu Met Lys Arg Met His Lys Ala Val Gln Lys Asp  
 530 535 540

Leu Pro Arg Pro Ser Glu Val Asn Thr Glu Ile Leu Arg Pro Leu Asn  
 545 550 555 560

Val Glu Pro Pro Leu Thr Asp Leu Gln Lys Ser Glu Glu Leu Ile Lys  
 565 570 575

Lys Glu Met Ile Thr Met Leu His Tyr Asp Leu Leu His His Pro Tyr  
 580 585 590

Glu Pro Ser Gly Asn Lys Lys Gly Lys Thr Val Gly Phe Gly Thr Asn  
 595 600 605

Asn Ser Glu His Ile Thr Tyr Leu Glu His Asn Pro Tyr Glu Lys Phe  
 610 615 620

Ser Lys Glu Glu Leu Lys Lys Ala Gln Asp Val Leu Val Gln Glu Met  
 625 630 635 640

Glu Val Val Lys Gln Gly Met Ser His Gly Glu Leu Ser Ser Glu Ala  
 645 650 655

Tyr Asn Gln Val Trp Glu Glu Cys Tyr Ser Gln Val Leu Tyr Leu Pro  
 660 665 670

Gly Gln Ser Arg Tyr Thr Arg Ala Asn Leu Ala Ser Lys Lys Asp Arg  
 675 680 685

Ile Glu Ser Leu Glu Lys Arg Leu Glu Ile Asn Arg Gly His Met Thr  
 690 695 700

Thr Glu Ala Lys Arg Ala Ala Lys Met Glu Lys Lys Met Lys Ile Leu  
 705 710 715 720

Leu Gly Gly Tyr Gln Ser Arg Ala Met Gly Leu Met Lys Gln Leu Asn  
 725 730 735

Asp Leu Trp Asp Gln Ile Glu Gln Ala His Leu Glu Leu Arg Thr Phe  
 740 745 750

Glu Glu Leu Lys Lys His Glu Asp Ser Ala Ile Pro Arg Arg Leu Glu

755

760

765

Cys Leu Lys Glu Asp Val Gln Arg Gln Gln Glu Arg Glu Lys Glu Leu  
770 775 780

Gln His Arg Tyr Ala Asp Leu Leu Leu Glu Lys Glu Thr Leu Lys Ser  
785 790 795 800

Lys Phe

<210> 2  
<211> 51  
<212> PRT  
<213> Homo sapiens

<400> 2  
Ile Lys Gly Gly Val Trp Arg Asn Thr Glu Asp Glu Ile Leu Lys Ala  
1 5 10 15

Ala Val Met Lys Tyr Gly Lys Asn Gln Trp Ser Arg Ile Ala Ser Leu  
20 25 30

Leu His Arg Lys Ser Ala Lys Gln Cys Lys Ala Arg Trp Tyr Glu Trp  
35 40 45

Leu Asp Pro  
50

<210> 3  
<211> 51  
<212> PRT  
<213> Schizosaccharomyces pombe

<400> 3  
Leu Lys Gly Gly Ala Trp Lys Asn Thr Glu Asp Glu Ile Leu Lys Ala  
1 5 10 15

Ala Val Ser Lys Tyr Gly Lys Asn Gln Trp Ala Arg Ile Ser Ser Leu  
20 25 30

Leu Val Arg Lys Thr Pro Lys Gln Cys Lys Ala Arg Trp Tyr Glu Trp  
35 40 45

Ile Asp Pro  
50

<210> 4  
<211> 50  
<212> PRT  
<213> Homo sapiens

<400> 4  
Val Lys Gly Pro Trp Thr Lys Glu Glu Asp Gln Lys Val Ile Glu Leu

1

5

10

15

Val Lys Lys Tyr Gly Thr Lys Gln Trp Thr Leu Ile Ala Lys His Leu  
20 25 30

Lys Gly Arg Leu Gly Lys Gln Cys Arg Glu Arg Trp His Asn His Leu  
35 40 45

Asn Pro  
50

<210> 5  
<211> 50  
<212> PRT  
<213> Homo sapiens

<400> 5  
Ile Lys Gly Pro Trp Thr Lys Glu Glu Asp Gln Lys Val Ile Glu Leu  
1 5 10 15

Val Gln Lys Tyr Gly Pro Lys Arg Trp Ser Leu Ile Ala Lys His Leu  
20 25 30

Lys Gly Arg Ile Gly Lys Gln Cys Arg Glu Arg Trp His Asn His Leu  
35 40 45

Asn Pro  
50

<210> 6  
<211> 50  
<212> PRT  
<213> Homo sapiens

<400> 6  
Ile Lys Gly Pro Trp Thr Lys Glu Glu Asp Gln Lys Val Ile Glu Leu  
1 5 10 15

Val Gln Lys Tyr Gly Pro Lys Arg Trp Ser Val Ile Ala Lys His Leu  
20 25 30

Lys Gly Arg Ile Gly Lys Gln Cys Arg Glu Arg Trp His Asn His Leu  
35 40 45

Asn Pro  
50

<210> 7  
<211> 123  
<212> PRT  
<213> Homo sapiens

<400> 7  
Pro Leu Lys Gly Gly Leu Asn Thr Pro Leu His Glu Ser Asp Phe Ser

1

5

10

15

Gly Val Thr Pro Gln Arg Gln Val Val Gln Thr Pro Asn Thr Val Leu  
20 25 30

Ser Thr Pro Phe Arg Thr Pro Ser Asn Gly Ala Glu Gly Leu Thr Pro  
35 40 45

Arg Ser Gly Thr Thr Pro Lys Pro Val Ile Asn Ser Thr Pro Gly Arg  
50 55 60

Thr Pro Leu Arg Asp Lys Leu Asn Ile Asn Pro Glu Asp Gly Met Ala  
65 70 75 80

Asp Tyr Ser Asp Pro Ser Tyr Val Lys Gln Met Glu Arg Glu Ser Arg  
85 90 95

Glu His Leu Arg Leu Gly Leu Leu Gly Leu Pro Ala Pro Lys Asn Asp  
100 105 110

Phe Glu Ile Val Leu Pro Glu Asn Ala Glu Lys  
115 120

<210> 8

<211> 107

<212> PRT

<213> Schizosaccharomyces pombe

<400> 8

Ser Val Thr Ile Glu Val Arg Asn Gln Leu Met Asn Arg Glu Gln Ser  
1 5 10 15

Ser Leu Leu Gly Gln Glu Ser Ile Pro Leu Gln Pro Gly Gly Thr Gly  
20 25 30

Tyr Thr Gly Val Thr Pro Ser His Ala Ala Asn Gly Ser Ala Leu Ala  
35 40 45

Ala Pro Gln Ala Thr Pro Phe Arg Thr Pro Arg Asp Thr Phe Ser Ile  
50 55 60

Asn Ala Ala Ala Glu Arg Ala Gly Arg Leu Ala Ser Glu Arg Glu Asn  
65 70 75 80

Lys Ile Arg Leu Lys Ala Leu Arg Glu Leu Leu Ala Lys Leu Pro Lys  
85 90 95

Pro Lys Asn Asp Tyr Glu Leu Met Glu Pro Arg  
100 105

<210> 9

<211> 119

<212> PRT

<213> Homo sapiens

<400> 9  
Pro Val Lys Thr Leu Pro Phe Ser Pro Ser Gln Phe Leu Asn Phe Trp  
1 5 10 15

Asn Lys Gln Asp Thr Leu Glu Leu Glu Ser Pro Ser Leu Thr Ser Thr  
20 25 30

Pro Val Cys Ser Gln Lys Val Val Val Thr Thr Pro Leu His Arg Asp  
35 40 45

Lys Thr Pro Leu His Gln Lys His Ala Ala Phe Val Thr Pro Asp Gln  
50 55 60

Lys Tyr Ser Met Asp Asn Thr Pro His Thr Pro Thr Pro Phe Lys Asn  
65 70 75 80

Ala Lys Tyr Gly Pro Leu Lys Pro Leu Pro Gln Thr Pro His Leu Glu  
85 90 95

Glu Asp Leu Lys Glu Val Leu Arg Ser Glu Ala Gly Ile Glu Leu Ile  
100 105 110

Ile Glu Asp Asp Ile Arg Pro  
115

<210> 10

<211> 123

<212> PRT

<213> Homo sapiens

<400> 10

Ile Leu Arg Lys Lys Arg Lys Met Arg Val Gly His Ser Pro Gly Ser  
1 5 10 15

Glu Leu Arg Asp Gly Ser Leu Asn Asp Gly Gly Asn Met Ala Leu Lys  
20 25 30

His Thr Pro Leu Lys Thr Leu Pro Phe Ser Pro Ser Gln Phe Phe Asn  
35 40 45

Thr Cys Pro Gly Asn Glu Gln Leu Asn Ile Glu Asn Pro Ser Phe Thr  
50 55 60

Ser Thr Pro Ile Cys Gly Gln Lys Ala Leu Ile Thr Thr Pro Leu His  
65 70 75 80

Lys Glu Thr Thr Pro Lys Asp Gln Lys Glu Asn Val Gly Phe Arg Thr  
85 90 95

Pro Thr Ile Arg Arg Ser Ile Leu Gly Thr Pro Arg Thr Pro Thr Pro  
100 105 110

Phe Lys Asn Ala Leu Ala Ala Gln Glu Lys Lys  
115 120

<210> 11  
<211> 2837  
<212> DNA  
<213> Homo sapiens

<400> 11  
ggcacgagag gaagtggcg 60  
aagctcctct cggctgctg 120  
agggggcgt atggaggaat 180  
ggaaaaatca gtggcttagg 240  
aagccagatg gtatgaatgg 300  
aagagaaaaa actcttgcac 360  
caatcattgg aagaacagcg 420  
ctgcccuaag agacaatgaa 480  
aaatagatcc aaatccagaa 540  
atgaacttga gatgcttct 600  
ccaagagggaa agcaagagag 660  
aaagaagaga acttcgagca 720  
gagttgatta taatgccgaa 780  
cttctgagga aaactaccaa 840  
ttgatgggaa gctaagatct 900  
tgaaaaggaa aaaagaatct 960  
aatttactaa aaagagaagc 1020  
tccaggaagt tggtaaaatg 1080  
ctggcataac aaattctgct 1140  
gcgttgcct 1200  
agaacctcat ggcctcacc 1260  
tgcgtgagag tgacttctca 1320  
cagttctctc tactccattc 1380  
gtgaaacaac tcccaaacc 1440  
agttaaacat taatcccgag 1500  
agatggaaag agaatccga 1560  
agaatgattt tgaaattgtt 1620  
tagatgatac ttacattgaa 1680  
atgcagagcg tggtaaaaggaa 1740  
gaccatcaga agtaaatgaa 1800  
atttacagaa aagtgaagaa 1860  
ttctacatca cccttatgaa 1920  
ccaataattc agagcacatt 1980  
aagagctgaa aaaggcccag 2040  
tgagccatgg agagctctca 2100  
aagtttata tcttcctggg 2160  
acagaattga atcacttgaa 2220  
ccaagaggc tgcaaagatg 2280  
gtgctatggg gctcatgaaa 2340  
tggagttacg cactttgaa 2400  
tagagtgtct aaaagaagac 2460  
gatatgctga tttgctgctg 2520  
atattctgtc acaggattaa 2580  
gtttatcttc attgacaaat 2640  
gatatcgatc ttacacattc 2700  
agtttaaattt attaaggcta 2760  
tttggccttt aatttaaaaaa 2820  
aaaacaaaat ataaaaaa 2837

<210> 12  
<211> 7

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: epitope for M2  
monoclonal antibody

<400> 12  
Asp Tyr Lys Asp Asp Asp Lys  
1 5

<210> 13  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 13  
gatttaacat aa 12

<210> 14  
<211> 9  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 14  
ttaacataa 9

<210> 15  
<211> 15  
<212> DNA  
<213> Homo sapiens

<400> 15  
aataaaatca aaatt 15

<210> 16  
<211> 15  
<212> DNA  
<213> Homo sapiens

<400> 16  
aaaggggaac acttt 15

<210> 17  
<211> 55  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<220>  
<221> misc difference  
<222> (21)..(35)  
<223> n = Any Nucleotide

<400> 17  
cgctcgaggg atccgaattc nnnnnnnnnn nnnnnntctag aaagcttgtc gacgc 55

<210> 18  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 18  
gcgtcgacaa gctttctaga 20

<210> 19  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 19  
cgctcgaggg atccgaattc 20

<210> 20  
<211> 11  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 20  
atttaacata a 11

<210> 21  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 21  
tatttaacat aa 12

<210> 22  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 22  
gctttaacat aa 12

<210> 23  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 23  
gagttaacat aa 12

<210> 24  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 24  
gatgtaacat aa 12

<210> 25  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 25  
gattgaacat aa 12

<210> 26  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 26  
gatttcacat aa 12

<210> 27  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 27  
gatttaccat aa 12

<210> 28  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 28  
gatttaatat aa 12

<210> 29  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 29  
gatttaacct aa 12

<210> 30  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 30  
gatttaacag aa 12

<210> 31  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 31  
gatttaacat ca 12

<210> 32  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 32

gatttaacat ac	12
<210> 33	
<211> 28	
<212> DNA	
<213> Homo sapiens	
<400> 33	
ccccccctta aaccagcgtg gagggggg	28
<210> 34	
<211> 26	
<212> DNA	
<213> Homo sapiens	
<400> 34	
aattccccgg atcattgcaa acaatt	26
<210> 35	
<211> 17	
<212> DNA	
<213> Homo sapiens	
<400> 35	
aatgaacgaa tcaaatt	17
<210> 36	
<211> 12	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Synthetic	
<400> 36	
ggtgtaacgt gg	12
<210> 37	
<211> 12	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Synthetic	
<400> 37	
gtgttaccac at	12
<210> 38	
<211> 12	
<212> DNA	
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<220>	
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<400> 38	

ccataaaat<sub>ttt</sub> ag 12  
<210> 39  
<211> 12  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
  
<400> 39  
gagataaaat<sub>gt</sub> ct 12  
<210> 40  
<211> 12  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
  
<400> 40  
gtgttattga aa 12  
<210> 41  
<211> 12  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
  
<400> 41  
acccacgtct at 12  
<210> 42  
<211> 12  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
  
<400> 42  
ggtaggata gg 12  
<210> 43  
<211> 12  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
  
<400> 43  
gttgagtagt at 12

<210> 44  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 44  
ctgttaattt cc 12

<210> 45  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 45  
ggtgttattt at 12

<210> 46  
<211> 90  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 46  
caagcttgca tgccctgcagg tgatttaaca taagatttaa cataagattt aacataagat 60  
ttaacataag atttaacata aactctagag 90

<210> 47  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 47  
cgtgtacatc gactgaaatc cc 22

<210> 48  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 48  
caagcttgca tgccctgcagg tcggagtact gtcctccgcc ggagtactgt cctccgcccgg 60  
agtactgtcc tccgcgattt aacataagat ttaacataag atttaacata aactctagag 120

<210> 49  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 49  
gatataacat at

12

<210> 50  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 50  
gatgtaacat ac

12